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REMARKS

Applicant wishes to thank the Examiner for the detailed remarks. Claim 47 has been amended. Claims 11-17 and 35-42 were previously withdrawn. Accordingly, claims 1-3, 18-34, and 43-47 are pending in the application and stand rejected.

Rejection Under §112, First Paragraph

Claims 20 and 47 were rejected under 35 U.S.C. §112, first paragraph. The Examiner argues that the limitation "up to about 7 weight percent" in claims 20 and 47 does not have literal support in the specification. The test for support is whether the Applicant was in possession of the claimed invention as a whole. Respectfully, the subject application discloses numerous example compositions over the claimed range of "up to about 7 weight percent" and thereby demonstrates Applicant's possession of the claimed limitation. For instance, the application discloses the range of 2-7wt% and other examples having 1wt% and 0.5wt% of the claimed elements (see page 5, lines 17-19; page 11, Table I; and page 13, Table II). Therefore, even though the term "up to about 7 weight percent" may not literally appear in the specification, the limitation is supported through the given examples. One skilled in the art can distinguish chemical formulas, and such formulas are normally an adequate description of the claimed genus. *Regents of the University of California v. Eli Lilly & Co.* 43 USPQ2d at 1406. For at least this reason, Applicant respectfully requests that the rejection be withdrawn.

Rejection Under §112, Second Paragraph

Claim 47 was rejected under 35 U.S.C. §112, second paragraph. The Examiner argues that the Markush format of claim 47 is improper. Accordingly, Applicant respectfully requests entry of amended claim 47 in compliance with the guidelines in accordance with MPEP 2773.05(h).

Rejection Under §103(a) over Takagi or Kondoh

Claims 1-3, 18-34, and 43-47 were rejected under 35 U.S.C. §103(a) as being unpatentable over Takagi or Kondoh. In response to Applicant's arguments filed 8/8/2007

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regarding "consisting essentially of," the Examiner argues that Applicant has not shown that introduction of the other elements would materially change the characteristics of the composition. However, as Applicant noted, the elements of Takagi and Kondoh are not impurity elements and would therefore inherently influence the characteristics of an alloy. For instance, the elements boron and iron contribute to dispersion strengthening in the composition of Takagi (col.3, lines 31-34, lines 41-45). The element lead in the composition of Kondoh influences lubricity (col. 3, lines 50-55; col. 9, lines 28-46). Applicant's composition is intended for burn and oxidation resistance, not lubricity and dispersion strengthening. Therefore, addition of the additional elements of Takagi and Kondoh would change the fundamental character of Applicant's composition.

Additionally, Applicant points to an article from "Flammability and Sensitivity of Materials in Oxygen-Enriched Atmospheres" by Sinclair et. al. (hereafter the "Sinclair article") The Sinclair article studied the combustion behavior of elemental materials. Table 2 (p.104) illustrates threshold pressures at which complete combustion occurred. That is, a high pressure indicates good burn resistance and a low pressure indicates poor burn resistance. The additional elements iron, lead, and boron that are present in the compositions of Takagi and Kondoh therefore appear to be detrimental to burn resistance based on the Sinclair article. For instance, the Sinclair article concludes that elements such as cobalt, nickel, and copper (see p.103) are burn resistant. In Table 2, cobalt (Co), nickel (Ni), and copper (Cu) have threshold pressures greater than 69MPa. However, the elements iron (Fe) and lead (Pb) that are present in the compositions of Takagi and Kondoh have respective threshold pressures of 0.5MPa and 5.2MPa that are much lower than the burn resistant elements. Therefore, iron and copper may be considered to be detrimental to burn resistance. Additionally, although boron does not appear to be mentioned in the Sinclair article, boron (e.g., boron carbide or boron nitride) may be considered to be a high temperature refractory element, similar to the refractory elements mentioned in the Sinclair article that are not burn resistant (p.103, second paragraph). Thus, one might expect boron to also be detrimental to burn resistance. For these reasons, the rejection of claims 1-3, 18-34, and 43-47 should be withdrawn.

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In response to Applicant's argument filed 8/8/07 regarding the range of "about 55 to about 85 volume percent" of reinforcing agent in claim 26, the Examiner appears to argue that the Kondoh reference discloses an overlapping range with the claimed range because the matrix (i.e., the copper alloy friction material) of Kondoh could be interpreted as a reinforcing agent. Respectfully, the matrix of Kondoh should not be interpreted as a reinforcing agent. The matrix includes copper alloy friction material for providing lubricity. Hard particles dispersed within the copper alloy function as an adjusting agent relative to the copper alloy for influencing the strength and hardness of the copper alloy (col.2, lines 5-17; col.6, lines 66-67). Thus, in the composition of Kondoh, the hard particles appear to be the reinforcing agent via influencing the strength of the copper alloy. Therefore, interpreting the matrix as a reinforcing agent is contrary to the explicit teachings of the Kondoh reference. For this reason, the rejection of claim 26 should be withdrawn.

In response to Applicant argument filed on 8/8/07 regarding claim 27, the Examiner argues that Applicant did not point out what feature was not taught by the cited references. However, Applicant specifically mentioned "the claimed property of a threshold burn resistant pressure of more than about 5,000 psi" in the response (page 12). The Examiner's reasoning for rejecting claim 27 seems to be that the reference compositions overlap the claimed composition and that the properties recited in claim 27 would therefore be inherent in the reference compositions. However, claim 27 recites the "threshold burn resistant pressure" and does not recite any composition limitations. Therefore, the Examiner appears to be improperly reading composition limitations of other claims into claim 27. Thus, the rejection does not establish obviousness of the claimed property and the burden to establish obviousness remains with the Examiner. For this reason, the rejection of claim 27 should be withdrawn.

Additionally, claim 47 recites a composition "consisting of" certain compositional constituents. The Examiner does not appear to have considered that the "consisting of" language closes the claim to the specified elements except for impurities ordinarily associated therewith. The rejection does not establish that the additional element(s) present in the compositions of Takagi and Kondoh are impurities that would ordinarily be present in the amounts disclosed. For at least this reason, the rejection of claim 47 should be withdrawn.

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Rejection Under §103(a) over Akutsu

Claims 18-34 were rejected under 35 U.S.C. §103(a) as being unpatentable over Akutsu. In response to Applicant's arguments filed 8/8/2007 regarding "consisting essentially of," the Examiner argues that Applicant has not shown that introduction of the other elements would materially change the characteristics of the composition. However, the oxygen of the composition of Akutsu influences wear resistance by forming hard oxides (see col.2, lines 39-45). Applicant's composition is intended for burn and oxidation resistance, not wear resistance. Therefore, addition of the oxygen of Akutsu would change the fundamental character of Applicant's composition. Respectfully, Applicant submits that the rejection of claim 18 and its dependent claims should be withdrawn.

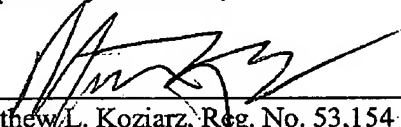
Additionally, Applicant maintains that the rejection of claim 26 should be withdrawn for the same reason as stated above that the reference does not disclose the claimed range of "about 55 to about 85 volume percent." The claimed range does not appear to overlap the range of Akutsu, which discloses at most 15 vol%.

Additionally, Applicant maintains that the rejection of claim 27 should be withdrawn for the same reasons stated above. The Examiner is improperly attempting to read composition limitations of other claims into claim 27.

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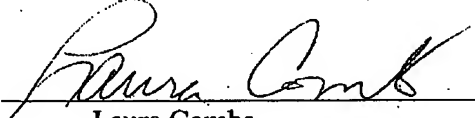
Applicant believes that no additional fees are necessary, however, the Commissioner is authorized to charge Deposit Account No. 21-0279 in the name of United Technologies Corporation for any additional fees or credit the account for any overpayment.

Respectfully submitted,


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CERTIFICATE OF TRANSMISSION UNDER 37 CFR 1.8

I hereby certify that this correspondence is being facsimile transmitted to the United States patent and Trademark Office, fax number (571) 273-8300, on 2-26, 2008.


Laura Combs